

CATALOG DOCUMENTATION  
EMAP-ESTUARIES PROVINCE LEVEL DATABASE  
CAROLINIAN PROVINCE 1994-1995  
DEMERSAL TRAWL DATA

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document

EMAP-Estuaries Province Level Database  
Carolinian Province  
Demersal Trawl Data

1.2 Authors of the Catalog entry

Timothy R. Snoots,  
Dr. Jeffrey L. Hyland

1.3 Catalog Revision Date

March 18, 1998

1.4 Data Set Name

CP\_DEM\_A.DAT, CP\_DEM\_S.TXT, CP\_DEM\_L.DAT, CP\_DEM\_C.DAT

## 1.5 Task Group

Estuaries

## 1.6 Data set identification codes

14, 15, 16, 17

## 1.7 Version

001

## 1.8 Requested Acknowledgment

If you plan to publish these data in any way, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U. S. Environmental Protection Agency through its EMAP-Estuaries Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement should be inferred."

## 2. INVESTIGATOR INFORMATION

### 2.1 Principal Investigator

J. Hyland (NOAA/NOS/NCCOS/CCMA) - Carolinian Province Manager  
A. Ringwood (SCDNR) - Lead P.I. for SC/GA region team  
C. Hackney (UNC-W) - Lead P.I. for NC region team  
G. McRae, G. Nelson, J. McKenna, J. Landsberg (FLDEP) -  
Lead P.I.s for FL region team (depending on year)

### 2.2 Investigation Participant - Sample Collection

#### Field Sample Collection

T. Alphin, S. Bowen, C. Byrum, D. Dye, A. Gospodarek,  
J. Grace, J. Grimley, C. Hackney, C. Powell, C. Preziosi,  
H. Riley, S. Roberts, M. Smith, K. Stokesbury,  
D. Tremain, T. Wheeler (UNC-W); S. Ross (NCNERR);  
M. Armstrong-Taylor, J. Jones, M. Levinson, P. Powers,  
A. Ringwood, T. Snoots, G. Steele (SCDNR); L. Balthis,  
T. Herrlinger, C. Keppler, M. Wert (UC); D. Adams,  
K. Amendola, D. Cook, C. Harnden, B. Heagey, J. McKenna,  
G. Nelson, C. Nowicki, R. Paperno, B. Rosenblatt,  
M. Wessel (FLDEP); J. Hyland, S. Kokkinakis  
(NOAA/NOS/ORCA)

#### Field Training and Coordination

S. Kokkinakis (NOAA/NOS/ORCA); J. Macauley (EPA-GED);  
T. Heitmuller (USGS-GB); D. Keith (EPA-AED)

## 2.3 Sampling Processing - Principal Investigator

### Program Management and Coordination

J. Hyland, A. Robertson (NOAA/NOS/NCCOS/CCMA); K. Summers (EPA);  
F. Holland, A. Ringwood (SCDNR); C. Hackney,  
T. Wheeler (UNC-W); S. Ross (NCNERR);  
J. Landsberg, J. McKenna, G. McRae, G. Nelson,  
R. Paperno (FLDEP)

### Demersal Analyses

S. Ross (NCNERR); K. Stokesbury (UNC-W); P. Powers,  
G. Steele (SCDNR); C. Keppler, M. Wert (UC);  
J. Landsberg, J. McKenna, G. McRae, G. Nelson,  
R. Paperno (FLDEP)

### QA/QC

T. Heitmuller (USGS-GB), S. Kokkinakis (NOAA/NOS/ORCA)

### Data Management and Statistical Support

T. Snoots, F. Holland, R. VanDolah (SCDNR); L. Balthis,  
T. Herrlinger (UC); J. Rosen, L. Zimmerman (TPMC);  
S. Rathbun (UGA); M. Adams, L. Harwell (JCWS);  
V. Engle (EPA-GED); Z. Malaeb (USGS-GB);  
S. Hale (EPA-AED); K. Summers (EPA); T. Wilson (CU)

## 3. DATA SET ABSTRACT

### 3.1 Abstract of the Data set

The CP\_DEM\_A.DAT, CP\_DEM\_S.TXT, CP\_DEM\_L.DAT, CP\_DEM\_C.DAT data sets contain demersal trawl data collected at each station in the EMAP Carolinian Province from 1994-1995. Fishes and invertebrates (shrimp, crabs, and squid) were collected at each station with a 4.9-m otter trawl (2.5 cm mesh wings and cod end) towed against the tidal currents. Tow duration was 10 min wherever possible and tow speed was 2-3 knots. Two to four tows were conducted at each station. Fishes and invertebrates captured in the trawls were carefully removed, sorted and identified to the lowest possible taxon (usually to species), enumerated, and measured for length to the nearest mm. In cases where a species was caught in excessive numbers, a minimum subsample of 30 individuals was measured for length.

The CP\_DEM\_A.DAT data set contains unsummarized demersal abundance data by trawl and taxon. This data set is for use as the data source for subsequent demersal trawl analyses and summary calculations (e.g., CP\_DEM\_L.DAT, CP\_DEM\_C.DAT are calculated from the data in CP\_DEM\_A.DAT).

The CP\_DEM\_S.TXT data set contains taxonomic classification information for all demersal taxa observed in trawls throughout the Carolinian Province from 1994-1995. This data set

is essential to resolve actual taxonomy and species names from the 8 digit code (variable COD\_EMAP) used to identify taxa in the CP\_DEM\_A.DAT and CP\_DEM\_L.DAT data sets. Taxonomic information includes: phylum, class, order, family, genus, species, and common name.

The CP\_DEM\_L.DAT data set contains demersal organism length data summarized by station and taxon. Summary results included are: number of lengths measured, mean length, and standard deviation of lengths, by taxon for each station.

The CP\_DEM\_C.DAT data set contains summary metrics used to describe the demersal community at a station. The summary results included are: number of trawls, mean number of demersal taxa (species richness) per trawl, mean demersal abundance per trawl, and Shannon-Weaver Index ( $H'$  diversity) per trawl, for each station.

The following reports are products of these and other data collected during the 1994-1995 Sampling period in the Carolinian Province. These reports may contain additional information and summary statistics that are not contained in this data set catalog or its respective data sets. We therefore recommend referring to them when using these data.

Hyland, J.L., T.J. Herrlinger, T.R. Snoots, A.H. Ringwood, R.F. Van Dolah, C.T. Hackney, G.A. Nelson, J.S. Rosen, and S.A. Kokkinakis. 1996. Environmental quality of estuaries of the Carolinian Province: 1994. Annual statistical summary for the 1994 EMAP-Estuaries Demonstration Project in the Carolinian Province. NOAA Technical Memorandum NOS ORCA 97. NOAA/NOS, Office of Ocean Resources Conservation and Assessment, Silver Spring, MD. 102 p.

Hyland, J.L., L. Balthis, C.T. Hackney, G. McRae, A.H. Ringwood, T.R. Snoots, R.F. Van Dolah, and T.L. Wade. 1998. Environmental quality of estuaries of the Carolinian Province: 1995. Annual statistical summary for the 1995 EMAP-Estuaries Demonstration Project in the Carolinian Province. NOAA Technical Memorandum NOS ORCA 123. NOAA/NOS, Office of Ocean Resources Conservation and Assessment, Silver Spring, MD. 143 p.

See also: McRae and Nelson (1996), Nelson (1995), Ringwood et al.(1995), Ringwood et al. (1997), Wheeler et al.(1995), Wheeler et al. (1996).

### 3.2 Keywords for the Data Set

demersal trawls, demersal community, species composition, mean taxon abundance, mean number of taxa, richness, Shannon-Weaver Index,  $H'$  diversity, pathologies, mean length, EMAP Carolinian Province

## 4. OBJECTIVES AND INTRODUCTION

### 4.1 Program Objective

EMAP has three primary objectives:

1. To estimate the current status, extent, changes, and trends in indicators of the Nation's ecological resources on a regional basis;
2. To monitor indicators of pollutant exposure and habitat condition, and to seek correlative relationships between human-induced stresses and ecological condition that identify possible causes of adverse effects; and
3. To provide periodic statistical summaries and interpretive reports on ecological status and trends to the EPA Administrator and to the public.

### 4.2 Data Set Objective

The CP\_DEM\_A.DAT, CP\_DEM\_S.TXT, CP\_DEM\_L.DAT, and CP\_DEM\_C.DAT data sets report raw and summarized demersal trawl data collected at each station in the EMAP Carolinian Province from 1994-1995. Results include abundances summarized by taxon and trawl, various community measures by station, and mean lengths by taxa and station.

### 4.3 Data Set Background Information

The CP\_DEM\_A.DAT, CP\_DEM\_S.TXT, CP\_DEM\_L.DAT, CP\_DEM\_C.DAT data sets contain demersal trawl data collected at each station in the EMAP Carolinian Province from 1994-1995. Fishes and invertebrates (shrimp, crabs, and squid) were collected at each station with a 4.9-m otter trawl (2.5 cm mesh wings and cod end) towed against the tidal currents. Tow duration was 10 min wherever possible and tow speed was 2-3 knots. Two to four tows were conducted at each station. Fishes and invertebrates captured in the trawls were carefully removed, sorted and identified to the lowest possible taxon (usually to species), enumerated, and measured for length to the nearest mm. In cases where a species was caught in excessive numbers, a minimum subsample of 30 individuals was measured for length.

### 4.4 Summary of Data Set Parameters

The CP\_DEM\_A.DAT data set contains unsummarized demersal abundance data by trawl and taxon. This data set is for use as the data source for subsequent demersal trawl analyses and summary calculations (e.g., CP\_DEM\_L.DAT, CP\_DEM\_C.DAT are calculated from the data in CP\_DEM\_A.DAT).

The CP\_DEM\_S.TXT data set contains taxonomic classification information for all demersal taxa observed in trawls throughout the Carolinian Province from 1994-1995. This data set is essential to resolve actual taxonomy and species names from the 8 digit code (variable COD\_EMAP) used to identify taxa in

the CP\_DEM\_A.DAT and CP\_DEM\_L.DAT data sets. Taxonomic information includes: phylum, class, order, family, genus, species, and common name.

The CP\_DEM\_L.DAT data set contains demersal organism length data summarized by station and taxon. Summary results included are: number of lengths measured, mean length, and standard deviation of lengths, by taxon for each station. In addition, a variable called MEASTYPE stores a code designating what dimensions of the organism were measured and reported as "length".

The CP\_DEM\_C.DAT data set contains summary metrics used to describe the demersal community at a station. The summary results included are: number of trawls, mean number of demersal taxa (species richness) per trawl, mean demersal abundance per trawl, and Shannon-Weaver Index ( $H'$  diversity) per trawl, for each station.

#### 4.5 Year-Specific Information about Data

Demersal trawl data were only collected in the Carolinian Province during the first two (1994 and 1995) of the four sampling years from 1994 to 1997.

### 5. DATA ACQUISITION AND PROCESSING METHODS

#### 5.1 Data Acquisition

##### 5.1.1 Sampling Objective

See section 4.3 (Data Set Background Information)

##### 5.1.2 Sample Collection Method Summary

See section 4.3 (Data Set Background Information)

##### 5.1.3 Beginning Sampling Dates

30 June 1994  
05 July 1995

##### 5.1.4 Ending Sampling Dates

31 August 1994  
14 September 1995

##### 5.1.5 Platform

Samples were collected from various gasoline or diesel powered boats equipped with at least the following equipment: "A" frame boom or davit, winch, LORAN-C or GPS for location, and a depth finder.

##### 5.1.6 Sampling Equipment

4.9-m otter trawl with 2.5 cm mesh wings

#### 5.1.7 Manufacturer of Sampling Equipment

Glavin Trawl Manufacturing Company  
117 Oak Street  
Biloxi, Mississippi 39530

#### 5.1.8 Key Variables

#### 5.1.9 Sample Collection Method Calibration

The sampling gear did not require any calibration. It did however required inspection for tears resulting from underwater obstructions, twisting during deployment, and any material caught in the trawl that may have reduced the trawls effectiveness or resulted in a loss of catch.

#### 5.1.10 Sample Collection Quality Control

Several quality control measures were incorporated. Field technicians were trained to follow Standard Operating Procedures to insure the collection of representative, and high quality samples. To help assure that the biota were identified accurately, all field crews had at least one member on board familiar with the species that were likely to be caught in bottom trawls. In addition, species identifications were validated in the laboratory by examination of voucher specimens collected for each species encountered in the field. Database entries for all trawl measurements were checked against the original field-recorded measurements (field sheets) and any inconsistencies were corrected.

Field site audits were conducted during sampling seasons by the QA Officer to determine compliance with the Quality Assurance Plan and Field Operations Manual.

The following QA codes, stored under the variable QACODE\_T in the CP\_DEM\_A.DAT data set, flag QA issues that resulted in non-standard or unacceptable trawls:

-----	
QACODE_T	Description
-----	
UA-Trawl	Trawl was unacceptable due to reasons such as: trawl filled with algae, trawl twisted or not properly opened, large object caught in trawl, trawl fouled on bottom. These situations generally resulted in the trawl being aborted well before its planned duration was reached. Due to the problems mentioned above, any observations flagged with the "UA-Trawl" QC code should not be used in data analyses.

QACODE_T	Description, continued
MA-Trawl	Trawl was marginally acceptable because its duration was less than the planned 10 min. As a result, observations flagged with the "MA-Trawl" QC code may not truly represent the demersal community at a station, and may result in underestimation of abundance or diversity for that trawl. Data from trawls flagged with the "MA-Trawl" code should be used with discretion.

In addition, due to possible data recording errors, the following observations have been identified as potentially underestimating abundance for the given taxa and trawl:

STA_NAME	TR_REP	COD_EMAP
CP94007	01	BAIRCHRY
CP94007	01	ORTHCHRY
CP94007	02	ORTHCHRY
CP94012	01	GOBIROBU
CP94043	02	LEIOXANT
CP94043	02	MICRUNDU
CP94043	03	CYNOREGA
CP94043	03	LEIOXANT
CP94043	03	MICRUNDU

Note that all values reported in the CP\_DEM\_A.DAT data set that do not have any QACODT\_T codes assigned and are not specifically mentioned above, met all QA/QC guidelines and are acceptable without further qualification.

See: Hyland et al. (1996),  
Hyland et al. (1998),  
Kokkinakis et al. (1994a)

#### 5.1.11 Sample Collection Method References

See: Hyland et al. (1996),  
Hyland et al. (1998),  
Kokkinakis et al. (1994b)

#### 5.1.12 Sample Collection Method Deviations

None

### 5.2 Data Preparation and Sample Processing

#### 5.2.1 Sample Processing Objective

NA



## 5.2.2 Sample Processing Methods Summary

### 5.2.2.1 Field Summary

Fishes and invertebrates (shrimp, crabs, and squid) were collected at each station with a 4.9-m otter trawl 2.5 cm mesh wings and cod end) towed against the tidal currents. Tow duration was 10 min wherever possible and tow speed was 2-3 knots. Two to four tows were conducted at each station. Fishes and invertebrates captured in the trawls were carefully removed, sorted and identified to the lowest possible taxon (usually to species), enumerated, and measured for length to the nearest mm. In cases where a species was caught in excessive numbers, a minimum subsample of 30 individuals was measured for length.

### 5.2.2.2 Laboratory Summary

NA

## 5.2.3 Sample Processing Method Calibration

NA

## 5.2.4 Sample Processing Quality Control

NA

## 5.2.5 Sample Processing Method Reference

NA

## 5.2.6 Sample Processing Method Deviations

NA

# 6. DATA ANALYSIS AND MANIPULATIONS

## 6.1 Name of New or Modified Value

Data set CP\_DEM\_C.DAT

D_TAXA	Mean number of demersal taxa per trawl
D_ORGS	Mean demersal abundance per trawl
D_HPRIME	Mean dem. H prime diversity per trawl

Data set CP\_DEM\_L.DAT

M_LEN	Mean length (mm)
SD_LEN	Std. dev. of lengths
MEASTYPE	Length measurement type code

## 6.2 Data Manipulation Description

### Data set CP\_DEM\_A.DAT

In the CP\_DEM\_A.DAT data set, observations occasionally have a missing taxa code (COD\_EMAP = " ") and an abundance of zero (ABUNDANC = 0). These observations are correct, and are used to identify valid demersal trawls that caught no fauna.

### Data set CP\_DEM\_S.TXT

Because several different field crews participated in sample processing, and several years of data are reported in the demersal trawl data sets (CP\_DEM\_A.DAT, CP\_DEM\_S.TXT, CP\_DEM\_C.DAT, CP\_DEM\_L.DAT), the taxa codes (COD\_EMAP) used in these data sets have been continuously scrutinized and standardized with each new addition of data. Inconsistencies in coding and nomenclature were corrected as necessary. Through this process, taxa codes are consistently assigned throughout all of these demersal trawl data sets.

### Data set CP\_DEM\_C.DAT

Note that the CP\_DEM\_A.DAT data set is the data source for the following community measures reported in the CP\_DEM\_C.DAT data set. Prior to any of the following calculations, observations with QACODE\_T = "UA-Trawl" in the CP\_DEM\_A.DAT data set were excluded.

Variable I\_TAXA (Mean number of demersal taxa per trawl) was calculated by counting the number of unique taxa (COD\_EMAP) in each trawl, summing these trawl counts, and then dividing by the number of trawls (N\_TRAWLS) at the station.

Variable I\_ORGS (Mean demersal abundance per trawl) was calculated by finding the total abundance of all taxa in each trawl, summing these trawl abundances, and then dividing by the number of trawls (N\_TRAWLS) at the station.

Variable I\_HPRIME (Mean dem. H prime diversity per trawl) was calculated by first calculating H prime for each trawl as given in Shannon and Weaver (1949), then summing these H prime values for the trawls, and then dividing by the number of trawls (N\_TRAWLS) at the station. H prime diversity (Shannon-Weaver Index) values that we have reported were calculated using base 2 logarithms.

Unsampled stations are identified in this data set by all variables containing missing data with the exception of N\_TRAWLS = 0.

### Data set CP\_DEM\_L.DAT

Variable M\_LEN (Mean length) was calculated by finding the mean length of all individuals of a given taxon captured over all valid trawls at the station. Results are reported by taxon for each station.

Variable SD\_LEN (Std. dev. of lengths) is the standard deviation associated with M\_LEN.

Because of the variable shapes of demersal biota, the mean lengths reported often represent different dimensions depending on the taxon. The following measurement type codes (stored in variable MEASTYPE) are used in the CP\_DEM\_L.DAT data set to designate the type of length reported:

MEASTYPE	Length Measurement Description
F	Fork length (finfish)
T	Total length (finfish)
B	Standard length (finfish)
S	Shell length - rostrum to telson (shrimp)
C	Greatest carapace width (crabs)
D	Disk width (skates and rays)
M	Mantle length (squid)

An inconsistency in the recording of finfish lengths exists in the demersal length data set (CP\_DEM\_L.DAT) and must be considered when using these data. During QC checks after field work had been completed, it was discovered that individual field crews used different length measurement methods for the same fish species (e.g., one team measured total length of croaker while the other may have measured fork length). This inconsistency makes between station or between year comparisons of the lengths of some fish species difficult. Although the mean lengths (M\_LEN) reported in the CP\_DEM\_L.DAT data set are correct for a given species and station, the accompanying measurement type code (MEASTYPE) for that observation must always be considered before using the data further (e.g., if comparing the mean length of a taxon between stations, you must be certain that the MEASTYPEs are the same for that taxon for all of the observations being compared, or be willing to accept the reduced accuracy associated with this source of sampling error). Measurement type codes are discussed further in Section 6.2 (Data Manipulation Description) below.

### 6.3 Data Manipulation Examples

NA

## 7. DATA DESCRIPTION

### 7.1 Description of Parameters

Data set CP\_DEM\_A.DAT

Variable	Type	Format	Label
STA_NAME	Char	7.	Carolinian Province Office Station Name
TR_REP	Char	2.	Trawl replicate number
DATE	Num	YYMMDD6.	Sample collection date (YYMMDD)
COD_EMAP	Char	8.	Carolinian Province Office Taxa Code
ABUNDANC	Num	4.	Abundance of taxon
QACODE_T	Char	8.	Trawl QC code

CP\_DEM\_S.TXT

Variable	Type	Format	Label
COD_EMAP	Char	8.	Carolinian Province Office Taxa Code
PHYLUM	Char	10.	Phylum
CLASS	Char	20.	Class
ORDER	Char	17.	Order
FAMILY	Char	15.	Family
GENUS	Char	14.	Genus
SPECIES	Char	15.	Species
COMMNAME	Char	24.	Common Name

CP\_DEM\_L.DAT

Variable	Type	Format	Label
STA_NAME	Char	7.	Carolinian Province Office Station Name
DATE	Num	YYMMDD6.	Sample collection date (YYMMDD)
COD_EMAP	Char	8.	Carolinian Province Office Taxa Code
N_LEN	Num	5.	Number of lengths
M_LEN	Num	7.1	Mean length (mm)
SD_LEN	Num	7.1	Std. dev. of lengths
MEASTYPE	Char	1.	Length measurement type code

CP\_DEM\_C.DAT

Variable	Type	Format	Label
STA_NAME	Char	7.	CP0 Sampling Station Code
DATE	Num	YYMMDD6.	Sample collection date (YYMMDD)
N_TRAWLS	Num	1.	Number of trawls
D_TAXA	Num	5.2	Mean number of demersal taxa per trawl
D_ORGS	Num	7.2	Mean demersal abundance per trawl
D_HPRIME	Num	5.2	Mean dem. H prime diversity per trawl

Note the conventions used in the Format columns above:

For character (Char) variables, the number given is the maximum width (number of characters) for that variable.

For numeric (Num) variables, the format is given in W.D format, where W = maximum width (number of characters) for the number (including all digits and the decimal point), and D = number of digits to the right of the decimal point.

#### 7.1.6 Precision to which values are reported

All values are accurate to the full precision that they are reported to.

#### 7.1.7 Minimum Value in Data Set

Data set CP\_DEM\_A.DAT

Variable	Minimum
ABUNDANC	0

Data set CP\_DEM\_L.DAT

Variable	Minimum
N_LEN	0
M_LEN	0
SD_LEN	0

Data set CP\_DEM\_C.DAT

Variable	Minimum
N_TRAWLS	0
D_TAXA	0
D_ORGS	0
D_HPRIME	0

#### 7.1.8 Maximum Value in Data Set

Data set CP\_DEM\_A.DAT

Variable	Maximum
ABUNDANC	850

### 7.1.8 Maximum Value in Data Set, continued

Data set CP\_DEM\_L.DAT

Variable	Maximum
N_LEN	132
M_LEN	945.0
SD_LEN	262.4

Data set CP\_DEM\_C.DAT

Variable	Maximum
N_TRAWLS	3
D_TAXA	19.00
D_ORGS	636.50
D_HPRIME	3.16

## 7.2 Data Record Example

### 7.2.1 Column Names for Example Records

Data set CP\_DEM\_A.DAT

STA\_NAME;TR\_REP;DATE;COD\_EMAP;ABUNDANC;QACODE\_T

Data set CP\_DEM\_S.TXT

COD\_EMAP;PHYLUM;CLASS;ORDER;FAMILY;GENUS;SPECIES;  
COMMNAME

Data set CP\_DEM\_L.DAT

STA\_NAME;DATE;COD\_EMAP;N\_LEN;M\_LEN;SD\_LEN;MEASTYPE

Data set CP\_DEM\_C.DAT

STA\_NAME;DATE;N\_TRAWLS;D\_TAXA;D\_ORGS;D\_HPRIME

### 7.2.2 Example Data Records

Data set CP\_DEM\_A.DAT

CP94001;01;940815;CALLSAPI;2;  
CP94001;01;940815;EUCIGULA;13;  
CP94001;01;940815;EUCIHARE;4;  
CP94005;02;940802;ARIUFELI;7;UA-Trawl  
CP94005;02;940802;CALLSAPI;6;UA-Trawl

### 7.2.2 Example Data Records, continued

#### Data set CP\_DEM\_S.TXT

```
ACHILINE;CHORDATA;OSTEICHTHYES;PLEURONECTIFORMES;  
SOLEIDAE;Achirus;lineatus;lined sole  
ACIPOXYR;CHORDATA;OSTEICHTHYES;ACIPENSERIFORMES;  
ACIPENSERIDAE;Acipenser;oxyrhynchus;  
Atlantic sturgeon  
ALOSAEST;CHORDATA;OSTEICHTHYES;CLUPEIFORMES;  
CLUPEIDAE;Alosa;aestivalis;blueback herring  
ALUTSCH0;CHORDATA;OSTEICHTHYES;TETRAODONTIFORMES;  
BALISTIDAE;Aluterus;schoepfi;  
orange filefish  
ALUTScri;CHORDATA;OSTEICHTHYES;TETRAODONTIFORMES;  
BALISTIDAE;Aluterus;scriptus;  
scrawled filefish
```

#### Data set CP\_DEM\_L.DAT

```
CP94001;940815;CALLSAPI;3;90.3;69.7;C  
CP94001;940815;EUCIGULA;21;99.4;13.1;F  
CP94001;940815;EUCIHARE;4;83.0;4.3;F  
CP94001;940815;EUCIXSP;1;42.0;.;F  
CP94001;940815;GYMMICR;1;875.0;.;D
```

#### Data set CP\_DEM\_C.DAT

```
CP94001;940815;2;4.50;16.50;1.50  
CP94002;940815;2;9.00;38.50;2.63  
CP94003;940816;2;6.50;43.00;2.06  
CP94004;940816;2;4.00;17.50;1.31  
CP94005;940802;1;9.00;35.00;2.60
```

## 8. GEOGRAPHIC AND SPATIAL INFORMATION

### 8.1 Minimum Longitude

-81 Degrees, 43.83 Minutes West Longitude

### 8.2 Maximum Longitude

-75 Degrees, 33.82 Minutes West Longitude

### 8.3 Minimum Latitude

27 Degrees, 12.07 Minutes North Latitude

### 8.4 Maximum Latitude

36 Degrees, 43.43 Minutes North Latitude

### 8.5 Name of area or region

Coastal distribution of sampling is along the southeastern US from Cape Henry, VA, through St. Lucie Inlet, FL. States represented: Virginia, North Carolina, South Carolina, Georgia, and Florida.

## 9. QUALITY CONTROL/QUALITY ASSURANCE

### 9.1 Measurement Quality Objectives

See section 5.1.9 (Sample Collection Method Calibration) and section 5.1.10 (Sample Collection Quality Control) above.

### 9.2 Quality Assurance/Control Methods

See section 5.1.9 (Sample Collection Method Calibration) and section 5.1.10 (Sample Collection Quality Control) above.

### 9.3 Quality Assessment Results

An inconsistency in the recording of finfish lengths exists in the demersal length data set (CP\_DEM\_L.DAT) and must be considered when using these data. During QC checks after field work had been completed, it was discovered that individual field crews used different length measurement methods for the same fish species (e.g., one team measured total length of croaker while the other may have measured fork length). This inconsistency makes between station or between year comparisons of the lengths of some fish species difficult. Although the mean lengths (M\_LEN) reported in the CP\_DEM\_L.DAT data set are correct for a given species and station, the accompanying measurement type code (MEATYPE) for that observation must always be considered before using the data further (e.g., if comparing the mean length of a taxon between stations, you must be certain that the MEATYPEs are the same for that taxon for all of the observations being compared, or be willing to accept the reduced accuracy associated with this source of sampling error). Measurement type codes are discussed further in Section 6.2 (Data Manipulation Description) below.

## 10. DATA ACCESS

### 10.1 Data Access Procedures

Data can be downloaded from the WWW site.

### 10.2 Data Access Restrictions

Data can only be accessed from the WWW site.

### 10.3 Data Access Contact Persons

For programmatic/policy matters, contact:  
Dr. Jeffrey L. Hyland  
NOAA/NOS National Centers for Coastal Ocean Science  
Center for Coastal Monitoring and Assessment - Charleston Lab  
217 Fort Johnson Rd. (P.O. Box 12559)  
Charleston, SC 29422-2559  
(843)762-5415 (Tel.)  
(843)762-5110 (FAX)  
jeff.hyland@noaa.gov (e-mail)



For data-related questions, contact:  
Dr. W. Leonard Balthis  
NOAA/NOS National Centers for Coastal Ocean Science  
Center for Coastal Monitoring and Assessment - Charleston Lab  
217 Fort Johnson Rd. (P.O. Box 12559)  
Charleston, SC 29422-2559  
(843)762-5652 (Tel.)  
(843)762-5110 (FAX)  
len.balthis@noaa.gov (e-mail)

Data Librarian, EMAP-Estuaries  
Melissa M. Hughes  
OAO Corporation  
U.S. EPA NHEERL-AED  
27 Tarzwell Drive  
Narragansett, RI 02882-1197  
(401) 782-3184 (Tel.)  
(401) 782-3030 (FAX)  
hughes.melissa@epa.gov (e-mail)

#### 10.4 Data file Format

Delimited ASCII Text

#### 10.5 Information Concerning Anonymous FTP

Not accessible

#### 10.6 Information Concerning Gopher and WWW

Data can be downloaded from the WWW.

#### 10.7 EMAP CD-ROM Containing the Data file

Data not available on CD-ROM.

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## 12. TABLE OF ACRONYMS

BVA	Barry A. Vittor & Associates, Inc., Mobile, Alabama
C	Degrees Celsius
cm <sup>2</sup>	Square centimeters
CMBAD	Coastal Monitoring and Bioeffects Assessment Division
CU	Clemson University
EMAP	Environmental Monitoring and Assessment Program
EPA	U.S. Environmental Protection Agency
EPA-AED	EPA-Atlantic Ecology Division
EPA-GED	EPA-Gulf Ecology Division
EPA-RTP	EPA-Research Triangle Park, NC
FLDEP	Florida Dept. of Environmental Protection
FMRI	Florida Marine Research Institute
FTP	File Transfer Protocol
GIS	Geographical Information System
JCWS	Johnson Controls Word Services
km <sup>2</sup>	Square kilometers
m <sup>2</sup>	Square meters
mg/L	Milligrams per liter
mS/cm	MilliSiemens per centimeter (equiv. to milliohms/cm)
MRRI	Marine Resources Research Institute
NCNERR	North Carolina National Estuarine Research Reserve
NCSU	North Carolina State University, NC
NA	Not Applicable
ng/g	Nanograms per gram
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
ORCA	Office of Ocean Resources Conservation and Assessment
QA/QC	Quality Assurance/Quality Control
ppb	Parts per billion (equiv. to ng/g)
ppm	Parts per million (equiv. to ug/g)
ppt	Parts per thousand
SAIC	Science Applications International Corporation
SCDNR	South Carolina Dept. of Natural Resources
TOC	Total Organic Carbon

TAMU/GERG	Texas A&M University, Geochemical and Environmental Research Group
TPMC	Technology Planning and Management Corporation
ug/g	Micrograms per gram
um	Micrometers
UC	University of Charleston, SC
UGA	University of Georgia, GA
UNC-W	University of North Carolina - Wilmington, NC
USGS-GB	US Geological Survey - Gulf Breeze, FL
wt.	Weight
WWW	World Wide Web -Internet

### 13. PERSONNEL INFORMATION

Dr. Courtney T. Hackney  
University of North Carolina - Wilmington,  
Wilmington, NC

Melissa M. Hughes  
Data Librarian, EMAP-Estuaries  
OAO Corporation  
U.S. EPA NHEERL-AED  
27 Tarzwell Drive  
Narragansett, RI 02882-1197  
(401) 782-3184 (Tel.)  
(401) 782-3030 (FAX)  
hughes.melissa@epa.gov (e-mail)

For programmatic/policy matters, contact:  
Dr. Jeffrey L. Hyland  
NOAA/NOS National Centers for Coastal Ocean Science  
Center for Coastal Monitoring and Assessment - Charleston Lab  
219 Fort Johnson Rd.  
Charleston, SC 29412-9110  
(843)762-8652 (Tel.)  
(843)762-8700 (FAX)  
jeff.hyland@noaa.gov (e-mail)

For data-related questions, contact:  
Dr. W. Leonard Balthis  
NOAA/NOS National Centers for Coastal Ocean Science  
Center for Coastal Monitoring and Assessment - Charleston Lab  
219 Fort Johnson Rd.  
Charleston, SC 29412-9110  
(843)762-8654 (Tel.)  
(843)762-8700 (FAX)  
len.balthis@noaa.gov (e-mail)

Jan Landsberg  
Florida Dept. of Environmental Protection  
Florida Marine Research Institute  
St. Petersburg, FL

James McKenna  
Florida Dept. of Environmental Protection  
Florida Marine Research Institute  
St. Petersburg, FL

Dr. Gil McRae  
Florida Dept. of Environmental Protection  
Florida Marine Research Institute  
St. Petersburg, FL

Gary A. Nelson  
Florida Dept. of Environmental Protection  
Florida Marine Research Institute  
St. Petersburg, FL

Dr. Amy H. Ringwood  
South Carolina Dept. of Natural Resources,  
Marine Resources Research Institute  
Charleston, SC